

METHOD FOR FABRICATING A MASK READ-ONLY-MEMORY WITH DIODE CELLS

ABSTRACT OF THE INVENTION

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A method for fabricating a mask read-only-memory with diode cells is provided. A doped conductive layer with a first conductivity is formed on bit lines. Then, a photoresist layer with a mask ROM pattern is formed on an interlayer dielectric layer on the doped conductive layer for serving as an etching mask, thereby forming openings in the interlayer dielectric layer unto the exposed regions of the doped conductive layer. Performing ion implantation to form a diffusion region with a second conductivity opposite to the first conductivity in each exposed region of the doped conductive layer, so that the doped conductive layer and the diffusion regions formed therein constitute diode cells that are served as memory cells. A contact plug is formed in each opening unto the diode cell and a conductive layer is formed on the contact plug for serving as word lines.